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EXAMINER	
HIRL, JOSEPH P	

ART UNIT	PAPER NUMBER
2121	

DATE MAILED: 03/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/788,152	EMEK ET AL.	
	Examiner	Art Unit	
	Joseph P. Hirl	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 December 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11,13 and 19-65* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11,13 and 19-65* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 February 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to an AMENDMENT entered December 16, 2004 for the patent application 09/788,152 filed on February 16, 2001.

2. The First Office Action of September 27, 2004 is fully incorporated into this Final Office Action by reference.

Status of Claims

3. Claims 1, 13, 19, and 24 are amended. Claims 12 and 14-18 are cancelled. Claims 1-11, 13 and 19-65 are pending.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-31 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The language of the claim raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject

matter under 35 U.S.C. 101. While the application maybe trivial, claims 1-31 can be implemented with pencil and paper.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-11, 13 and 19-65 are rejected under 35 U.S.C. 102(b) as being anticipated by Mackworth (Consistency in Networks of Relations, Artificial Intelligence, 1977, referred to as **Mackworth**).

Claims 1, 19

Mackworth anticipates receiving a set of variables that are characteristic of inputs to the system under test, the variables having respective input domains and a set of relations among the variables (**Mackworth**, p 104, l 2-18; Examiner's Note (EN): the consistency algorithm tests for conditions of x); building a network of one or more hyper-arcs representative of the set of relations, each hyper-arc corresponding to one of the relations and linking nodes in the network corresponding to the variables that are subject to the relation (**Mackworth**, p 104, l 2-6; EN: see specification @ p 2 , l 17-28 for network terminology); for each of the hyper-arcs, assembling the variables in a

hierarchy based on the relation corresponding to the hyper-arc (**Mackworth**, p 104, l 8-18); reducing the input domains of the variables in the hierarchy, so as to determine respective output domains of the variables that are consistent with the relations (**Mackworth**, p 104, l 8-18); and determining values of the inputs to be made to the system based on the output domains of the variables (**Mackworth**, p 107, l 30-40 EN: regarding three variables, **Mackworth**, p 104, l 18-24; such is D_i, D_j, D_k and related variables).

Claim 2

Mackworth anticipates assembling the variables comprises arranging the variables in a hierarchical graph, having vertices corresponding to the variables (**Mackworth**, p 104, l 2-6; EN: graphs have nodes and linkages and are axiomatically hierarchical).

Claim 3

Mackworth anticipates arranging the variables in the hierarchical graph comprises arranging the graph so as to have the form of one or more trees (**Mackworth**, p 102, l 6-8).

Claim 4

Mackworth anticipates reducing the input domains comprises reducing the input domains over each of the trees so as to find respective interim domains of the variables that are consistent with the relation over each of the trees, and combining the interim domains over all of they trees to determine the output domains (**Mackworth**, p 105, l 16-25; p 114, l 32).

Claims 5, 21, 52

Mackworth anticipates receiving a definition of the relations as a combination of operators, selected from a group of arithmetic, bitwise and logical operators, which are applied to the variables, and wherein arranging the variables in the graph comprises inserting vertices in the graph corresponding to the operators, connecting the vertices corresponding to the variables (**Mackworth**, p 107, l 12-29; EN: such as a binary predicate; inserting vertices would follow related constraints or operations since there is a connected relationship).

Claims 6, 20, 26, 51, 57

Mackworth anticipates reducing the input domains comprises finding projections of the operators onto the domains of the variables in the graph (**Mackworth**, p 104, l 8-18; EN: constraints or predicates include operators that affect domains; artificial intelligence tasks are processor implemented).

Claims 7, 27

Mackworth anticipates receiving the set of variables comprises receiving an output variable and at least one input variable for each of the operators, and wherein finding the projections comprises projecting the domain of the at least one input variable of each of the operators onto the domain of the output variable thereof, and projecting the domain of the output variable of each of the operators onto the domain of the at least one input variable thereof (**Mackworth**, p 104, l 2-18; EN: a forward projection axiomatically establishes a reverse projection on at least one input variable...they have to be connected).

Claims 8, 39

Mackworth anticipates wherein building the network of the hyper-arcs comprises representing the set of relations as a disjunction of multiple relations, with one of the hyper-arcs corresponding respectively to each of the relations, and wherein determining the respective output domains comprises determining interim domains of the variables for each of the hyper-arcs, and taking a union of the interim domains for each of the variables to determine the output domains (**Mackworth**, p 104, l 2-18; EN: disjunction follows with a node and a predicate to another node ... and the output follows from each path so determined with the output domain being the non repetitive summation ... such is the output from a graph; processor follows from artificial intelligence applications).

Claims 9, 22, 40, 53

Mackworth anticipates reducing the input domains comprises determining the output domains such that for any given value in the respective output domain of each of the variables, there exist values of the other variables in the respective output domains thereof that, together with the given value, constitute a solution to the set of relations (**Mackworth**, p 104, l 2-18; EN: the output follows from each path so determined with the output domain being a solution set; processor follows from artificial intelligence applications).

Claims 10, 23, 41, 54

Mackworth anticipates reducing the input domains comprises determining the output domains such that every set of values of the variables in the input domains that

constitutes a solution to the set of relations is contained in the output domains of the variables (**Mackworth**, p 105, l 16-25).

Claims 11, 42

Mackworth anticipates receiving the set of relations comprises receiving a relation relating to at least three of the variables (**Mackworth**, p 104, l 18-24; EN: such is D_i, D_j, D_k and related variables).

Claim 43

Mackworth anticipates receiving the set of variables comprises receiving variables that are characteristic of inputs to a system under test, and wherein reducing the input domains comprises determining values of the inputs to be made to the system based on the output domains of the variables (**Mackworth**, p 104, l 2-8; p 99, abstract; EN: Artificial Intelligence tasks include systems under test).

Claims 13, 44

Mackworth anticipates the system comprises an electronic processor, and wherein determining the values of the inputs comprises determining commands and addresses to be input to the processor (**Mackworth**, p 99, abstract; EN: Artificial Intelligence tasks include systems under test related to an electronic processor which would have commands).

Claim 45

Mackworth anticipates receiving the set of variables comprises receiving control parameters of a mechanical system, and wherein reducing the input domains comprises generating command to control the system based on the output domains of the

parameters (**Mackworth**, p 99, abstract; EN: Artificial Intelligence tasks includes control parameters related to mechanical systems and generating command to control the system has to be based on the output).

Claim 46

Mackworth anticipates receiving the set of variables comprises receiving features of an image containing visual information, and wherein reducing the input domains comprises identifying an object in the image based on the features (**Mackworth**, p 99, abstract; EN: Artificial Intelligence tasks include identifying an object in the image based on features).

Claim 47

Mackworth anticipates set of variables comprises receiving a natural language input, and wherein reducing the input comprises parsing the natural language, responsive to the output domains, so as to interpret the language (**Mackworth**, p 99, abstract; EN: Artificial Intelligence tasks include language interpretation wherein the input is partitioned, interpreted and related to preceding output (domain)).

Claim 48

Mackworth anticipates receiving the set of variables comprises receiving characteristics of a condition, and wherein reducing the input domains comprises determining a diagnosis of the condition based on the output domains (**Mackworth**, p 99, abstract; EN: Artificial Intelligence tasks is problem solving based on a set of input characteristics wherein the domain reduction follows the solution).

Claim 49

Mackworth anticipates the set of variables comprises receiving characteristics of resources whose use is to be scheduled, and wherein reducing the input domains comprises scheduling the use of the resources subject to the set of relations (**Mackworth**, p 99, abstract; EN: Artificial Intelligence tasks involve scheduling resources that are condition related).

Claim 24

Mackworth anticipates receiving a set of variables that are characteristic of inputs to the system under test, the variables having respective input
domains and a set of constraints comprising one or more relations defined as a combination of operators, selected from a group of arithmetic, bitwise and logical operators, which are applied to the variables (**Mackworth**, p 104, l 2-18; EN: the consistency algorithm tests for conditions of x); building a network of one or more hyper-arcs representing the set of constraints, each hyper-arc corresponding to one of the relations expressed in terms, of the operators and linking nodes in the network corresponding to the variables to which the operators are applied (**Mackworth**, p 104, l 2-6); and reducing the input domains of the variables in the network responsive to the operators, so as to determine respective output domains of the variables that are consistent with the set of constraints (**Mackworth**, p 104, l 2-6); determining values of the inputs to be made to the system based on the output domains of the variables (**Mackworth**, p 107, l 30-40)

Claim 25

Mackworth anticipates receiving the set of constraints comprises providing a language for specifying theconstraints, the language having grammatical rules, and specifying the constraints using the language (**Mackworth**, p 116, l 16-39).

Claims 28, 59

Mackworth anticipates the operators comprise multi-variable operators, which receive two of more of the variables as their inputs (**Mackworth**, p 104, l 2-6; EN: such is $P_{ij}(x,y)$, artificial intelligence tasks implement processors).

Claims 29, 60

Mackworth anticipates multi-variable operators comprise one or more operators selected from a group consisting of addition, subtraction, multiplication, division and modulo operators (**Mackworth**, p 108, l 13-14; EN: addition is represented by concatenation; artificial intelligence tasks implement processors).

Claims 30, 61

Mackworth anticipates the multi-variable operators comprise one or more operators selected from a group consisting of an operator testing equality of two of the variables, an operator testing inequality of two of the variables, and an operator testing whether one of the variables is greater than another of the variables (**Mackworth**, p 109, l 8-10; artificial intelligence tasks implement processors).

Claims 31, 62

Mackworth anticipates one or more operators selected from a group consisting of a bitwise "and," bitwise "or" and bitwise "exclusive or" operations (**Mackworth**, p 109, l

1-2; EN: such is the implementation of binary multiplication; artificial intelligence tasks implement processors).

Claims 32, 50, 63, 64

Mackworth anticipates solving a constraint satisfaction problem, comprising a constraint processor, arranged to receiving a set of variables having respective input domains and a set of constraints comprising one or more relations among the variables, to build a network of one or more hyper-arcs representative of the set of constraints, each hyper-arc corresponding to one of the relations and linking nodes in the network corresponding to the variables that are subject to the relation and for each of the hyper-arcs, to assemble the variables in a hierarchy based on the relation corresponding to the hyper-arc, and to reduce the input domains of the variables in the hierarchy, so as to determine respective output domains of the variables that are consistent with the set of constraints (**Mackworth**, p 99, abstract; p 104, l 2-24; EN: artificial intelligence tasks use computers or processors; such is D_i, D_j, D_k and related variables of three or more).

Claim 33

Mackworth anticipates the hierarchy of the variables comprises a hierarchical graph, having vertices corresponding to the variables (**Mackworth,** p 104, l 2-8; EN: graphs have nodes and edges and are hierarchical).

Claim 34

Mackworth anticipates hierarchical graph has the form of one or more trees (**Mackworth,** p 102, l 1-3).

Claim 35

Mackworth anticipates the processor is arranged to reduce the input domains over each of the trees so as to find respective interim domains of the variables that are consistent with the relation over each of the trees, and to combine the interim domains over all of the trees to determine the output domains (**Mackworth,** p 102, l 1-3; p 104, l 2-18; EN: the output follows from each tree branch so determined to form the solution set).

Claim 36

Mackworth anticipates the set of constraints is defined as a combination of operators, selected from a group of arithmetic, bitwise and logical operators, which are applied to the variables, and wherein the graph comprises vertices corresponding to the operators, connecting the vertices corresponding to the variables (**Mackworth,** p 108, l 10-13; p 104, l 2-8).

Claim 37

Mackworth anticipates the processor is arranged to find projections of the operators onto the domains of the variables in the graph (**Mackworth,** p 108, l 10-13; p 104, l 2-8; EN: operators are in relations and relations tie the variables (nodes) together).

Claims 38, 58

Mackworth anticipates the set of variables comprises an output variable and at least one input variable for each of the operators, and wherein the processor is arranged to project the domain of the at least one input variable of each of the operators

onto the domain of the output variable thereof, and to project the domain of the output variable of each of the operators onto the domain of the at least one input variable thereof (**Mackworth**, p 99, abstract; p 104, l 2-8; EN: artificial intelligence tasks use computers or processors; projection is processing; relationships are between two variables).

Claims 55, 65

Mackworth anticipates apparatus for solving a constraint satisfaction problem, comprising a constraint processor, arranged to receive a set of variables having respective input domains and a set of constraints comprising one ormore relations defined as a combination of operators, selected from a groupof arithmetic, bitwise and logical operators, which are applied to the variables, to build a network of one or more hyper-arcs representative of the set of constraints, each hyper-arc corresponding to one of the relations expressed in terms of the operators and linking nodes in the network corresponding to the variables to which the operators are applied, and to reduce the input domains of the: variables in the network responsive to the operators, so as to determine respective output domains of the variables that are consistent with the set of constraints (**Mackworth**, p 99, abstract; p 107, l 12-29; p 104, l 2-24; p 109. l 1-2; EN: artificial intelligence tasks use computers or processors; inserting vertices would follow related constraints or operations since there is a connected relationship).

Claim 56

Mackworth anticipates wherein the constraints received by the processor are specified using a constraint-specification language having grammatical rules, and

wherein the processor is arrange to build the network automatically based on the constraints specified in the language (**Mackworth,** p 116, l 16-39; p 104, l 2-8).

Response to Arguments

7. The objections to claims 8. and 9. under 37 CFR 1.75 is withdrawn.

8. Applicant's arguments filed on December 16, 2004 related to Claims 1-65 have been fully considered but are not persuasive.

In reference to Applicant's argument:

Claims 1-31 were rejected under 35 U.S.C. 101 for being directed to, non-statutory subject matter. Applicant has amended independent claims 1, 19 and 24 in order to overcome this rejection, by incorporating limitations previously stated in claim 12 (now canceled). The amended claims recite a method for testing a system, based on building a network of hyper-arcs representing relations among variables that are characteristic of inputs to the system under test. Values of the inputs to be made, to the system are found by determining respective output domains of the variables.

Examiner's response:

A "system under test" can exist on a piece of paper drawn by a pencil and such system is obviously not tangibly embodied in the technical arts. The use of the term "computerized" as a modifier to method in the preamble will resolve the 35 USC 101 issue.

In reference to Applicant's argument:

Mackworth describes algorithms for solving a constraint satisfaction problem (CSP) based on maintaining arc consistency. These algorithms include the Boolean procedure "REVISE," listed by Mackworth on page 104, lines 8-18 (cited on page 3, lines 21-31, in the present patent ;application). As noted in the present patent application (page 5, lines 14-18), Mackworth's method requires that constraints be given as a logical relation, represented as an explicit set of valid combinations of variable values, or revealed through a predicate. This requirement is exemplified by Mackworth's expression of a prototypical CSP on page 100, lines 4-S, and his exclusive use of the Boolean predicates Pj(y) and Pij{.x,y) in representing the arcs of his CSP.

Claim 1, as amended, recites a method for testing a system based on building a network of hyper-arcs representing a set of relations among variables that are characteristic of inputs to the system. Each hyper-arc corresponds to one of the relations and links nodes in the network corresponding to the variables that are subject to the relation. The variables linked by each of the hyper-arcs are assembled in a hierarchy based on the relation corresponding to the hyper-arc. The input domains of the variables in the hierarchy are reduced in order to determine output domains consistent with the relations. The output domains determine the values of the inputs to be made to the system under test.

In rejecting this claim, the Examiner made reference to the above-mentioned "REVISE" procedure in Mackworth and indicated that this procedure includes the steps of assembling the variables in a hierarchy and reducing the input domains of the variables in the hierarchy, as recited in claim 1. Mackworth does not use the term "hierarchy," however, and the Examiner did not point out any term or data structure in Mackworth that might be considered equivalent to a hierarchy. The only guidance given by the Examiner in this regard was to note that Mackworth refers to systems of three variables (top of page 4 in the Official Action).

The existence of multiple variables, however, does not prove or even suggest that the variables are somehow arranged in a hierarchy, let alone the specific hierarchy recited in claim 1. As noted in MPEP 2111.01:

Ordinary, simple English words whose meaning is clear and unquestionable, absent any indication that their use in a particular context changes their meaning, are construed to mean exactly what they say.

The word "hierarchy" is defined in Webster's Third New International Dictionary as "the arrangement of objects, elements, or values in a graduated series" or "a series of objects, elements or values so arranged." Hierarchies of this sort are shown in Figs. 3 and 6 of the present patent application, for example. Mackworth's variables, on the other hand, simply have arbitrary subscripts (i,j,k), which have nothing to do with any sort of hierarchical ordering.

Examiner's response:

Para 12. applies. From the applicant's definition of hierarchy, anything assembled can represent a hierarchy so long as it is so arranged. Hence even if the subscripts maybe arbitrary, a hierarchy is established since the implementation is serial. Notwithstanding this inherent consideration, predicate ordering is explicitly established by Mackworth @ p 101, l 17-18.

In reference to Applicant's argument:

Claim 19 was rejected on the same grounds as claim 1. In support of this contention, the Examiner pointed out that Mackworth refers to systems of three variables (top of page 4 in the Official Action). With respect to relations among the variables, however, Mackworth discloses only unary predicates ($P_j(y)$) and binary predicates ($P_{ij}(x,y)$). Mackworth neither teaches nor suggests the use of relations involving at least three variables, such as $P_{ijk}(xj,z)$. The methods that Mackworth describes for achieving arc

consistency are, by themselves, simply inapplicable to relations involving three or more variables. The present invention provides a solution to this shortcoming.

Examiner's response:

Para 12. applies. The Examiner has full latitude to interpret each claim in the broadest reasonable sense. The claims and only the claims form the metes and bounds of the invention. Limitations appearing in the specification but not recited in the claim are not read into the claim. The issue is there are three variables. Applicant has not rejected the domain variables of D_i, D_j, D_k.

In reference to Applicant's argument:

In rejecting claim 24, the :Examiner asserted that the use of constraints comprising one or more relations defined as a combination of operators is described by Mackworth on page 104, lines 2-8. The cited passage describes domains D; and Dj for two variables vi and vj, with respective values x and y and a predicate Py(x,y), which are used in the arc consistency algorithm described subsequently. The passage makes no mention or suggestion of a relation between variables defined as a combination of operators, as required by claim 24, nor is there any such suggestion elsewhere in Mackworth. (Section. 7.2, on page 108 of Mackworth deals with "operations on relations," which is a different and ;separate notion from defining relations as a combination of operators applied to variables, as taught by the present invention.) Therefore, claim 24 is believed to be patentable over Mackworth, as are claims 25-31, which depend from claim 24.

Examiner's response:

Para 12. applies. The Examiner has full latitude to interpret each claim in the broadest reasonable sense. The claims and only the claims form the metes and bounds of the invention. Limitations appearing in the specification but not recited in the claim are not read into the claim. Mackworth @ p 104, l 1-17 identifies a Boolean procedure related to two domains with two variables. Relations are set forth in Mackworth @ p 104, l 1-8 and further implemented in the consistency algorithm of Mackworth @ P 104, l 9-18. The combination of operators comes forth from the Boolean procedure.

Examination Considerations

9. The claims and only the claims form the metes and bounds of the invention. "Office personnel are to give the claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris,* 127 F.3d 1048, 1054-55, 44USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. *In re Prater*, 415 F.2d, 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, l 45-48; p 2100-9, c 1, l 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense. Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

10. Examiner's Notes are provided to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office actions. Such comments are entirely consistent with the intent and spirit of compact prosecution. However, and unless otherwise stated, the Examiner's Notes are not prior art but a link to prior art that one of ordinary skill in the art would find inherently appropriate.

11. Unless otherwise annotated, Examiner's statements are to be interpreted in reference to that of one of ordinary skill in the art. Statements made in reference to the condition of the disclosure constitute, on the face of it, the basis, and such would be obvious to one of ordinary skill in the art, establishing thereby an inherent prima facie statement.

12. Examiner's Opinion: Paras 9., 10., and 11 apply. The Examiner has full latitude to interpret each claim in the broadest reasonable sense. The issue at hand is focused on how the claims are written. The tighter the claim language, the more difficult it becomes for the Examiner to effectively apply the USPTO considerations identified in Para 9.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Claims 1-11, 13 and 19-65 are rejected.

Correspondence Information

15. Any inquiry concerning this information or related to the subject disclosure should be directed to the Examiner, Joseph P. Hirl, whose telephone number is (571) 272-3685. The Examiner can be reached on Monday – Thursday from 6:00 a.m. to 4:30 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Anthony Knight can be reached at (571) 272-3687.

Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks,

Washington, D. C. 20231;

or faxed to:

(703) 872-9306 (for formal communications intended for entry);

or faxed to:

(571) 273-3685 (for informal or draft communications with notation of "Proposed" or "Draft" for the desk of the Examiner).

Joseph P. Hirl

March 2, 2005